

REMARKS

The office action of September 20, 2006, has been carefully considered.

It is noted that the disclosure is objected to for not containing section headings.

Claims 5-10 are objected to under 37 C.F.R. 1.75(c).

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) over the patent to Grove in view of the patent to Horneschemeyer et al. and/or the patent to Plociennik et al.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) Grove in view of Horneschemeyer et al. and/or Plociennik et al., and further in view of the patent to Suzuki et al.

Claim 4 is rejected under 35 U.S.C. 103(a) Grove in view of Horneschemeyer et al. and/or Plociennik et al., and further in view of JP 03118943.

In connection with the Examiner's objection to the

application, applicant has amended the specification to include section headings.

In view of these considerations it is respectfully submitted that the objection to the application is overcome and should be withdrawn.

In view of the Examiner's objections to and rejections of the claims, applicant has canceled claim 2 and amended claims 1 and 3-10.

Applicant has amended the claims to address the instances informalities pointed out by the Examiner.

In view of these considerations it is respectfully submitted that the objection to claims 5-10 under 37 C.F.R. 1.75(c) paragraph is overcome and should be withdrawn.

It is respectfully submitted that the claims presently on file differ essentially and in an unobvious, highly advantageous manner from the constructions disclosed in the references.

Turning now to the references and particularly to the patent

to Grove, it can be seen that this patent discloses a continuous metal casting mold.

The patent to Hörneschemeyer et al. discloses a liquid-cooled casting die.

The patent application of Plociennik et al. discloses a mold for continuous casting of strands.

The Examiner combined Grove with Hörneschemeyer et al. and/or Plociennik et al. in determining that claims 1 and 3 would be unpatentable over such a combination. Applicant respectfully submits that none of these references, nor their combination, teach a continuous casting mold as in the presently claimed invention.

In view of these considerations it is respectfully submitted that the rejection of claims 1 and 3 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

The patent to Suzuki et al. discloses a continuous casting apparatus for molten metal with a casting mold having a pair of

first copper cooling plates and first non-magnetic support plates made of stainless steel, which are used in combination with the copper plates, a pair of second copper cooling plates and second magnetic support plates made of stainless steel, which are used in combination with the copper plates, and a plurality of separated cooling regions that contain insulating material. The first copper cooling plates and the second copper cooling plates each have at least one groove on a side opposite the casting side. Each of the first and second support plates, which close and fix the side surfaces, have at least one groove, these grooves corresponding to the grooves in the first and second copper cooling plates, which results in forming the cooling passages.

In other words, the grooves cooperate to form the cooling passages. Such a setting together of cooling passages is known in various fields, but is not comparable with the features recited in claim 1 presently on file. The presently claimed invention recites a casting mold for liquid metals with steel charging plates, which are arranged parallel opposite each other to form the casting cross section and are surrounded by water tanks; with cassette-type copper plates, which rest against the steel charging plates and bound the casting cavity; possibly with end plates, which are inserted at the end faces of the casting cavity

for establishing the thickness and/or width of the cast strand and close the casting cavity at the end faces; and with coolant channels that connect an inlet with an outlet in the copper plates at their contact surfaces with the steel charging plates. The thickness of the copper plates between the coolant and the hot side of the copper plates varies over the width and/or over the height of the mold. Furthermore, the coolant channels run in the copper plate and at least partially in the adjacent steel charging plate.

Due to the inventive construction, the hot-side temperature is made uniform across the width of the mold and a distinct temperature drop along the height of the mold under the casting surface region is reduced. Furthermore, because the cooling channels run in the copper plate and at least partially in the bordering steel charging plates, there is a uniform flow speed in the cooling channels and the production of the cooling channels in the copper plate and the steel charging plate is simplified.

Regarding Plociennik et al., the mold is a pipe mold for round cross sections. Thus, such a mold can have no suggestion relative to a mold as claimed in the present application.

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A combination of Grove with Hörneschemeyer et al. and/or Plociennik et al., and Suzuki et al. does not teach or suggest the invention recited in the claims presently on file and as discussed above.

In view of these considerations it is respectfully submitted that the rejection of claims 2 and 3 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

By 

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450 Alexandria, VA 22313-1450, on December 20, 2006.

By: 
Klaus P. Stoffel

Date: December 20, 2006